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BEFORE THE ARIZONA CORPORATION COMMISSION

Arizona Corporation Commission

DOCKETED

FEB 3 2017

DOCKETED BY

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TOM FORESE, Chairman
BOB BURNS
DOUG LITTLE
ANDY TOBIN
BOYD W. DUNN

IN THE MATTER OF THE APPLICATION OF
ARIZONA PUBLIC SERVICE COMPANY FOR
A HEARING TO DETERMINE THE FAIR
VALUE OF THE UTILITY PROPERTY OF THE
COMPANY FOR RATEMAKING PURPOSES,
TO FIX A JUST AND REASONABLE RATE OF
RETURN THEREON, TO APPROVE RATE
SCHEDULES DESIGNED TO DEVELOP SUCH
RETURN.

Docket No. E-01345A-16-0036

IN THE MATTER OF FUEL AND
PURCHASED POWER PROCUREMENT
AUDITS FOR ARIZONA PUBLIC SERVICE
COMPANY.

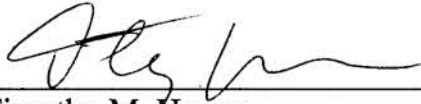
Docket No. E-01345A-16-0123

**NOTICE OF FILING DIRECT
TESTIMONY OF CYNTHIA ZWICK
ON BEHALF OF THE ARIZONA
COMMUNITY ACTION
ASSOCIATION**

Arizona Community Action Association ("ACAA"), through its undersigned counsel,
hereby provides notice that it has this day filed the attached direct testimony of Cynthia Zwick.

1 DATED this 3rd day of February, 2017.

2 ARIZONA CENTER FOR LAW IN
3 THE PUBLIC INTEREST

4 By 
5 Timothy M. Hogan
6 514 W. Roosevelt Street
7 Phoenix, Arizona 85003
8 *Attorneys for Arizona Community*
9 *Action Association*

10 ORIGINAL and 13 COPIES of
11 the foregoing filed this 3rd day
12 of February, 2017, with:

13 Docketing Supervisor
14 Docket Control
15 Arizona Corporation Commission
16 1200 W. Washington
17 Phoenix, AZ 85007

18 COPIES of the foregoing
19 electronically mailed this
20 3rd day of February, 2017, to:

21 All Parties of Record

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1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2 TOM FORESE – Chairman
3 BOB BURNS
4 DOUG LITTLE
5 ANDY TOBIN
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7 IN THE MATTER OF THE APPLICATION OF
8 ARIZONA PUBLIC SERVICE COMPANY FOR
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10 VALUE OF THE UTILITY PROPERTY OF THE
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12 TO FIX A JUST AND REASONABLE RATE OF
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15 RETURN.

Docket No. E-01345A-16-0036

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IN THE MATTER OF FUEL AND
PURCHASED POWER PROCUREMENT
AUDITS FOR ARIZONA PUBLIC SERVICE
COMPANY.

Docket No. E-01345A-16-0123

Direct Testimony of

Cynthia Zwick

On behalf of

Arizona Community Action Association

February 3, 2017

1 **Q. Please state your name and business address.**

2 A. My name is Cynthia Zwick. My business address is 2700 N Third St Ste. 3040, Phoenix, AZ
3 85004.

4 **Q. What is your position at the Arizona Community Action Association?**

5 A. I serve as the Executive Director of Arizona Community Action Association (ACAA). I've
6 served in this position since 2003.

7 **Q. Please describe your background and work experience.**

8 A. ACAA is a non-profit organization that advocates on behalf of the low-income community
9 throughout the state and is working to create economic equity in Arizona. ACAA works with
10 community partners throughout the state to: educate the community about issues related to
11 poverty; improve public policy; and ensure low-income families have access to the tools and
12 systems needed to become and sustain self-sufficiency.

13 **Q. What is the purpose of your testimony today?**

14 A. The purpose of my testimony is to request that the Arizona Corporation Commission take into
15 consideration the needs of the low-income customers of Arizona Public Service (APS) in this
16 rate case. Specifically, I request that you:

- 17 • Implement a tiered rate discount to assist the neediest low-income customers
18 with the most assistance;
- 19 • Provide reports on the new E-3 and E-4 income verification process;
- 20 • Auto-enroll customers who receive bill assistance onto the E-3 rider;
- 21 • Exempt low-income customers from the mandatory demand charge;
- 22 • Exempt low-income customers from any fixed charge increase;
- 23 • Increase low-income customer installations in the Solar Partnership Program;
- 24 • Continue APS's support of the Crisis Bill Assistance program;
- 25 • Open satellite locations for customer service in rural areas where APS recently
26 closed its business offices; and

- Waive deposit requirements for newly enrolled E-3 and E-4 customers

Q. In what way are low-income customers uniquely challenged?

A. Poverty is a prevalent and growing issue in Arizona. More than eighteen percent of Arizona's population lives in poverty. Almost three in ten Arizonans are working poor, defined as 150% of the poverty line (\$18,090 for an individual, \$30,624 for a family of three). Nine percent of Arizonans are in deep poverty at half the poverty rate. More than a third of Arizonans are cost-burdened in their housing, which means they spend more than 30% of their income on shelter. An Arizona worker earning minimum wage would need to work 85 hours per week in order to pay for a two bedroom apartment, more than double the hours in a standard work week.¹ Arizona ranks third in the country for high child food insecurity rates with 1 in 3 children facing hunger on a daily basis. Many of the people receiving food assistance are working and can't make ends meet; more than 40% of the households receiving emergency food assistance have at least one person in the home who is working.² Low-income households pay more for their energy than the average household. Low-income households pay 22% more per square foot than non-low-income customers for the same energy. The disparity is attributed to low-income households having poorly insulated housing and inefficient appliances.³ This represents a structural problem in the way energy is provided to low-income customers, where those with the most difficulty paying are actually paying the most. In addition to paying more per square foot for energy, low-income customers pay a larger percentage of their income to cover their electricity bill. An average utility customer pays about 3% of their income on energy (their energy burden); low-income households who are eligible for E-3/E-4 on average spend more than three times that amount, or 11%. Households at the poverty line have an energy burden of 14%, and households in deep poverty, defined as 50% of

¹ <http://nlihc.org/oor/arizona>

² <http://www.firstfoodbank.org/learn-more/hunger-statistics-in-arizona>

³ EIA RECS 2009

1 the poverty line, spend 19% of their income just to keep the lights on.⁴ These burdens are only
2 going to get worse. The company is seeking to increase residential rates by 7.96%, while wages
3 for low-income workers have decreased by 3% since 2006.⁵ With burdens this high, many
4 customers are forced to make painful tradeoffs in their household budgets. One in six Arizonans
5 has skipped a doctor's appointment because they couldn't afford it, jeopardizing long-term
6 health to manage a short-term budget crisis.⁶ High energy bills add to food insecurity. When
7 the temperature changes significantly, low-income and high-income customers spend more on
8 energy. In order to afford the higher bills, low-income households reduce their food
9 consumption by 10%, while high-income households increase their consumption.⁷ Arizona
10 already has a higher rate of food insecurity than the national average; severe energy burdens add
11 to this problem. In the *Hunger in America 2014* study, a survey of food bank clients reported
12 65% of households being forced to choose between paying for food and paying for utilities in
13 the past 12 months, with 25% facing this choice every month.⁸ Arizona ranks 46th among U.S.
14 states in child poverty and well-being across the country.⁹ Households in need receiving energy
15 assistance are less likely to have children with nutritional risk for growth problems and lower
16 odds of acute hospitalization.¹⁰ Assisting low-income households with energy is a proven
17 method of increasing childhood well-being.
18 Along with utilities, housing costs are significant stressors for low-income households. More
19 than 70% of low-income Arizonans spend more than 30% of their income on housing, making
20 them cost-burdened.¹¹ More than half of low-income households are severely burdened,

21
22 ⁴ <http://www.homeenergyaffordabilitygap.com/>

⁵ <http://www.epi.org/publication/charting-wage-stagnation/>

23 ⁶ <http://scorecard.assetsandopportunity.org/latest/state/az>

⁷ <http://www.nber.org/papers/w9004>

24 ⁸ http://help.feedingamerica.org/HungerInAmerica/FB164_AZ_Mesa_report.pdf?s_src=W15AREFER&s_referrer=www.stl.unitedway.org%2F2015%2F05%2F5-tough-choices-people-who-cant-afford-food-make%2F&s_subsrc=http%3A%2F%2Fwww.feedingamerica.org%2Fhunger-in-america%2Four-research%2Fhunger-in-america%2Fkey-findings.html&_ga=1.207809686.522753187.1445819108

25 ⁹ <http://www.bizjournals.com/phoenix/blog/business/2015/07/arizona-ranks-near-bottom-for-child-poverty-well.html>

26 ¹⁰ <https://www.ncbi.nlm.nih.gov/pubmed/17079530>

¹¹ FINANCIAL CHARACTERISTICS, 2010-2014 American Community Survey 5-Year Estimates S2503

1 meaning they spend more than half their income on housing.¹² Nowhere in Arizona can a person
2 working a full work week at minimum wage afford a one-bedroom apartment.¹³ Housing and
3 utility costs were listed as key causes of homelessness in a report from the Council of Mayors.¹⁴
4 Living with a high energy burden is also known to be a significant detriment to a person's
5 health. Addressing fuel poverty has been known to improve general health, decrease the number
6 of work days missed, and even lead to an increased lifespan.¹⁵ In Arizona, there has been an
7 average of 2,050 heat-related emergency department visits per year since 2008, with a total of
8 157 heat-associated deaths in that same time period.¹⁶ Air conditioning is the best protection
9 against heat-related illnesses; in Maricopa County, a recent study showed that 70% of the people
10 who died of heat-associated causes indoors did not have air conditioning, 55% had turned their
11 AC off, and 15% had their AC turned on but it was blowing hot air.¹⁷ We should never make
12 someone ration their summer cooling to the point that it may cause injury or death; clearly, low-
13 income customers are in need of unique services and assistance to ensure such tragedies don't
14 continue to occur.

15 Low-income customers on E-3 and E-4 are having a much tougher time getting by than non-low-
16 income customers. E-3 and E-4 customers made late payments 37% of the time, compared to
17 ten percent for higher income customers. Over 25% of E-3/E-4 customers received
18 disconnection notices, compared to 8% for non-low-income customers. Fourteen percent of E-3
19 and E-4 customers were disconnected, while only 4% of higher income customers experienced
20 disconnection. The late fees charged per customer were 69% higher for low-income customers,
21 and the NSF fees per customer were 73% higher for E-3 and E-4 customers. Twenty eight
22

23 ¹² <http://www2.nhc.org/Arizona.pdf>

24 ¹³ <http://nlihc.org/oor/arizona>

25 ¹⁴ <https://www.usmayors.org/pressreleases/uploads/2014/1211-report-hh.pdf>

26 ¹⁵ C. Liddell, C. Morris, "Fuel poverty and human health: A review of recent evidence" Energy Policy 38 (2010) 2987-2997.
doi:10.1016/j.enpol.2010.01.037

¹⁶ <http://azdhs.gov/documents/preparedness/epidemiology-disease-control/extreme-weather/pubs/heat-related-illness-update-april-2015.pdf>, <http://azdhs.gov/documents/preparedness/epidemiology-disease-control/extreme-weather/pubs/heat-related-deaths-updated-may-2015.pdf>

¹⁷ <http://www.maricopa.gov/PublicHealth/Services/EPI/pdf/heat/2015annualreport.pdf>

1 percent of low-income customers had to use payment plans in the test year, compared to 6% of
2 non-low-income customers.¹⁸ With these disparities in their ability to afford electricity, it's clear
3 that low-income customers need to be served as a separate and dedicated class with attention to
4 ensuring their ability to pay.

5 **LOW-INCOME DISCOUNT RATE**

6 **Q. What is the current low-income discount rate provided by APS?**

7 A. The current discount, known as the E-3 rider, is separated into blocks of kilowatt-hour usage,
8 with the discount decreasing as kWh usage increases. The discounts range from 65% off of the
9 customer's bill to a flat \$31.75 off of a customer's bill above 1200 kWh.

10 **Q. What has APS proposed for the discount rate in the rate review?**

11 A. APS has proposed to offer a flat discount of \$34 or 80% off of the customer's bill, whichever is
12 smaller.

13 **Q. Do you support the new proposal?**

14 A. It has its plusses and minuses. A flat discount removes some uncertainty from the customer's
15 bill, but the previous discount could offer more assistance, so this proposal may actually reduce
16 savings.

17 **Q. What are the bill impacts of the proposed E-3 design with the new rates?**

18 A. The bill impacts are fairly minimal when comparing the E-12 and the R-XS with the E-3 rider,
19 although there is a 30% spike at 400 kWh. The bigger problem comes from the three demand
20 rates; between 650 and 850 kWh in the summer, all three demand rates have substantial price
21 spikes for E-3 customers on E-12. The spikes for R-2 and R-3 go up 40%, and the spike for R-1
22 goes up by 50%. In the winter it's even worse – an average E-3 customer on R-1 would see a
23 60% increase. This is the definition of rate shock.

24 **Q. Do you have an alternative proposal?**

25
26 ¹⁸ ACAA Data Request 1.5, 1.6, 1.8, 1.9, 1.10, 1.11

1 A. Yes. ACAA proposes a tiered rate discount for low-income customers, with the largest discount
2 going to customers in deep poverty, a smaller discount going to customers between 51% and
3 100% of the poverty line, and the smallest discount going to customers between 101% and 150%
4 of the poverty line. Rates must be affordable for low-income households. Not only is it the right
5 thing to do, setting affordable rates makes vulnerable customers more likely to pay more of their
6 bills. This may seem counterintuitive, but it's been observed in Indiana, Colorado, New Jersey,
7 Pennsylvania, Ohio, Maryland, and Missouri.¹⁹ In New Jersey, when customers had an energy
8 burden of 3%, 80% of customers paid their entire bill, compared to 60% of customers paying
9 their entire bill with energy burdens at or above 8%. A pilot in Pennsylvania found that
10 participants with affordable bills increase the number of payments they make, increasing
11 company revenue. Furthermore, Pennsylvania found the program to be in the public interest and
12 found it to be a more cost-effective option to address payment-troubled customers than
13 traditional collections methods.²⁰ In Philadelphia, with PECO's program to provide affordable
14 bills to customers under 50% FPG, the average shortfall in payments was decreased by \$333.
15 The program also provided large positive impacts on affordability, large increases in payment
16 compliance, and a reduction in collections actions and service terminations.²¹ This increase in
17 bill coverage, the ratio of the revenue collected to the revenue billed, and reduction in collections
18 costs has led to increased revenue for utilities in several states. It's also led to increased revenue
19 for APS itself. Comparing customers enrolled in the E-3 rate to low-income customers not on E-
20 3 we see that the E-3 customers performed much better. The difference in bill coverage, the
21 ratio of revenue collected from the customer vs. the revenue billed to the customer, was night
22 and day. The E-3 customers had bill coverage of 95% while the non-E-3 customers had bill
23 coverage of 59%. This means that E-3 customers have more consistent payment patterns.
24 They're also less costly to serve. The non-E-3 customers had 6,000 more late bill notices, twice
25

¹⁹ <http://www.synapse-energy.com/sites/default/files/Low-Income-Assistance-Strategy-Review-14-111.pdf>

²⁰ http://www.pabulletin.com/secure/data/vol29/29-19/29_19_sop.pdf

²¹ <http://www.appriseinc.org/wp-content/uploads/2016/05/PECO-Below-50pct.pdf>

1 as many disconnection notices, and more than three times as many disconnections and
2 reconnections.²² All of these collections activities end up hurting the company's bottom line.
3 With the costs of these activities factored in, the E-3 customers provided \$232 more revenue per
4 customer than the non-E-3 customers. This resulted in a 25% increase in revenue, which is
5 consistent with previous data collected in Colorado, which showed a 31% increase in revenue.
6 Clearly, it's in the company's interest to enroll as many eligible customers as possible in the E-3
7 rate. It also suggests that tailoring the discount to assist customers proportionately according to
8 need would increase bill coverage and decrease collection activity, further improving company
9 revenue while keeping more customers connected to the grid.

10 Another key criterion for low-income affordability is payment certainty, where customers know
11 what their bill is going to be, particularly during the summer cooling months, and be confident
12 that their bill is not going to exceed their budget. Indeed, this is one of the advantages listed by
13 the Company for its new flat discount. Going one step further than the company's proposal,
14 levelized payments will provide real peace of mind. Colorado, Indiana, and Maryland, require
15 low-income customers to take service under budget billing when they join the low-income
16 discount program.²³ APS has already implemented the Equalizer budget billing program. To
17 provide the greatest benefit to low-income customers, when the customer enrolls in E-3, they
18 should automatically be enrolled in levelized billing, with the option to opt out if it isn't the right
19 rate for them.

20 An affordable energy burden is generally considered to be 6%. With that in mind, using an
21 average bill of \$135/month,²⁴ here are discount rates designed using Arizona Census data for
22 people in deep poverty, at the poverty line, and working poor/low income customers who qualify
23 for E-3:
24
25

26 ²² ACAA Data Request 1.1, 1.2.

²³ www.fsconline.com/downloads/FSC_Newsletter/news2009/n2009_0708.pdf

²⁴ EIA 861 2015 data

Poverty Level	0-50%	51-100%	101-150%
energy burden	6%	6%	6%
Monthly discount	\$ 108.26	\$ 60.85	\$ 27.44
Percent discount	80%	45%	20%
monthly bill	\$ 27.20	\$ 74.62	\$ 108.02

Again, although it may be counterintuitive, it is in the Company's best interest to put customers on affordable rates. Microeconomic theory tells us that, as long as the customer covers all of their variable costs and pays some of the fixed costs, they should remain connected as customers. As long as they cover their variable cost, it's better to have the customer contributing something to the fixed costs rather than nothing. If the customers were disconnected, they wouldn't pay anything toward the fixed costs, forcing the fixed cost burden to be spread over fewer customers. Increasing the burden on the other customers, by any amount, makes them worse off, making it harder to pay, and less likely the company will recover all of its fixed costs. As such, it is in the Company's interest and in the other ratepayers' interests to make sure that low-income rates are affordable so low-income customers can continue to contribute to the fixed costs. Designing the rate to be a function of a household's poverty level ensures greater affordability across the poverty guideline spectrum.

The variable cost to serve customers, according to the company, is \$0.0347 per kWh. For the average consumption of 1047 kwh/month, this gives a fixed cost of \$36.35. It appears that the deep poverty discount is too large; these customers wouldn't be contributing anything to the fixed charges. When the deep poverty discount is set at 10% energy burden, the company is able to recover fixed costs from these customers, and the customers are kept out of fuel poverty.

Poverty Level	0-50%	51-100%	101-150%
Energy Burden	10%	6%	6%
Monthly Discount	\$ 90.13	\$ 60.85	\$ 20.18
Percent Discount	67%	45%	15%
Monthly Bill	\$ 45.34	\$ 74.62	\$ 115.29

As far as the deep poverty rate: discounts even greater than this have precedent. Maryland's lowest tier of the EUSP offers a 75% discount, and New Hampshire's tiered rate discount has a maximum percentage off of 77%.²⁵

To implement this discount, it would be best to offer it as a percentage of the total bill until the discount exceeds the flat monthly discount, at which point the customer would receive the flat discount. If the Company were to implement a purely flat discount, in that situation many customers may have zero dollar bills. Alternatively, if the company were to offer a straight percentage, that could cause discounts to balloon for large customers. Implementing a hybrid approach ensures affordability and manages the total discount cost. Indeed, this is the structure of the discount that the company proposed – 80% of the bill or \$34, whichever is less. Refer to Exhibits A and B for the E-3 rider edited to incorporate the tiered discount program.

With a tiered discount program, there is some concern about customers receiving the wrong discount. This has been addressed by the company's new policy of verifying income for E-3 and E-4 customers upon enrollment. With this knowledge in hand, it will be a very simple process to select the correct discount rate for each individual customer, ensuring that they are able to receive proper assistance.

²⁵ http://www.appriseinc.org/reports/MSS_MD.pdf, <http://www.synapse-energy.com/sites/default/files/Low-Income-Assistance-Strategy-Review-14-111.pdf>

E-3 and E-4 ENROLLMENT

Q. Has the company changed the way that it enrolls low-income customers into the E-3 and E-4 riders?

A. Yes. To enroll customers in the E-3 and E-4 riders, the low-income discount and low-income medical discount, respectively, the company has established categorical eligibility for customers who have received SNAP, TANF, and LIHEAP. Additionally, they now require customers to mail income information to a third party to determine program eligibility. The third party sends the verified record to APS for enrollment, a process now takes approximately to two weeks to complete. Previously, customers were able to self-certify when opening an account or updating their record.

Q. Do you support these program changes?

A. Categorical eligibility is a positive step forward. If a customer has already received income-qualified assistance, then their income status has been verified. There's no reason to duplicate efforts.

However, ACAA is concerned about requiring customers to mail a third party vendor income information before joining the E-3 or E-4 program and when time comes to recertify due to the likelihood that these extra steps with discourage participation. In other states, requiring customers to mail in recertification documents causes a substantial amount of attrition. In Maryland, when customers were required to recertify for the EUSP program, a third failed to recertify. Three percent had their situation improve and no longer needed assistance; the other 30% reported that they didn't recertify because of the "hassle" or "transaction costs" associated with applying.²⁶ These participants had their income verified at a local administering agency when they applied originally, so it is known that they were originally qualified.

Obviously, program integrity is important, and like the Company, ACAA doesn't want ineligible customers to be on the E-3 or E-4 riders. However, this method of verifying income has the

²⁶ <http://www.psc.state.md.us/wp-content/uploads/EUSP051107.pdf>

1 very real potential to purge a substantial number of customers who should be receiving the
2 discount. This is not what the program is intended to do.

3 **Q. What do you recommend?**

4 A. APS should work to make the enrollment process as efficient as possible. The company has a
5 record of customers who have received bill assistance in a database. When a customer is coming
6 close to needing recertification, the company should check its database to see if that customer
7 has recently received assistance. If so, there would be no need to request new income
8 verification information from the customer, as their income was verified when they received
9 assistance. Implementing this policy will avoid any hiccups in enrollment for the customers and
10 it will require less information going back and forth from customers and the company,
11 streamlining the operation.

12 APS should regularly publish a report, every 90 days, stating how many customer accounts were
13 up for recertification, how many customers were recertified, and how many customers were not
14 recertified. If the number of customers who were not recertified exceeds 10%, APS should
15 follow up with those customers to ascertain why they did not recertify. If APS hears the same
16 answers that were given in Maryland, the company should consider an alternative form of
17 certification and recertification. One such certification method would be taking a representative
18 random sample of E-3 and E-4 customers every year and asking those customers for income
19 verification. This option is much cheaper than verifying everyone's income, it's just as
20 accurate, and it greatly minimizes the chance of eligible customers falling out of enrollment due
21 to onerous verification standards.

22 **AUTO-ENROLLMENT FOR E-3**

23 **Q. How many customers are enrolled on the E-3 and E-4?**

24 A. There are 86,650 customers enrolled in E-3 and E-4.

25 **Q. How many customers are eligible for E-3 and E-4 in APS's service territory?**

A. It's hard to say exactly, but we can get a useful approximation from census data. The eligibility threshold for E-3 and E-4 is 150% of the Federal Poverty Guideline. In Arizona, 24% of the households fall under that threshold.²⁷ Twenty-four percent of APS's customer base is 247,126 households.

If the threshold is applied to each county, the total eligible population is:

County	Percent of HH at 150% FPG	Number of APS Customers	APS Customers at 150% FPG
Maricopa	21.2%	718,602	152,116
Apache, Navajo	43.4%	17,158	7,444
Cochise	35.7%	49,480	17,673
Coconino	23.5%	49,480	11,605
Gila	27.1%	26,236	7,115
La Paz	27.0%	8,636	2,330
Pima	25.2%	1,103	277
Pinal	24.6%	40,655	9,995
Yavapai	21.8%	105,417	22,950
Yuma	35.3%	67,098	23,662
Total			255,170

Either way, the total is very near 250,000 eligible households.

Q. What percentage of eligible customers is enrolled?

A. Given the values above, 35% of eligible customers are enrolled in E-3 or E-4.

Q. Why is it important to ensure eligible customers are enrolled on the E-3 and E-4 riders?

²⁷ POVERTY STATUS IN THE PAST 12 MONTHS, 2011-2015 American Community Survey 5-Year Estimates, Table S1701.

1 A. Electricity is not affordable for low-income customers. On average, the home energy
2 affordability gap in Arizona is \$358.²⁸ By ensuring low-income customers are enrolled in the
3 low-income riders, they are more likely to be able to maintain service, which means they'll be
4 able to continue paying toward the company's fixed charges. It's a win-win.

5 **Q. Are there any strategies that would increase enrollment that you believe the company**
6 **should implement?**

7 A. Yes, I believe implementing automatic enrollment for customers who receive bill assistance
8 would help to increase enrollment. Not only does this strategy target at-risk customers, but these
9 customers have just had their income status verified when they received assistance, removing the
10 need for the company to perform any further screening. This has already been implemented by
11 Salt River Project and they've seen 3-5% increase in enrollment for their low-income discount
12 rate.

13 **DEMAND CHARGES**

14 **Q. What has the company proposed regarding demand charges?**

15 A. The company has proposed mandatory demand charges for residential customers who use more
16 than 600 kWh per month.

17 **Q. Should low-income customers be subjected to this new change?**

18 A. No. Demand charges aren't cost-based, they don't incentivize conservation, they're confusing,
19 customers don't receive enough information to properly address them, they're not popular, the
20 study presented by the company is not representative of average low-income customers, and
21 they're biased against renters and low-income customers.

22 **Q. Why do you say demand charges aren't cost-based?**

23 A. A cost-based rate is one that varies with the amount of usage. For example, a kilowatt-hour
24 charge set at the marginal cost of generation is cost-based. Demand charges are nearly the exact
25 opposite of that. When I use an additional kW of power, the company doesn't build another kW
26

²⁸ <http://www.homeenergyaffordabilitygap.com/>

1 of capacity – it already existed on the grid. Additionally, if I decrease my kW usage after setting
2 my peak, the company doesn't reduce the grid's capacity, and my demand charge stays constant
3 rather than decreasing with my reduction in usage. Given these characteristics, it's clear that
4 demand charges aren't actually cost-based, but are rather an attempt to add a pseudo-fixed
5 charge to customers' bills that isn't necessarily mandatory, but is nearly impossible to avoid.

6 **Q. Why don't demand charges incentivize conservation?**

7 A. Demand charges put a heavy tax on using energy during peak hours. But the customer won't
8 know their demand information until the next day, and by then there's nothing they can do about
9 it. If the customer didn't exceed that month's maximum demand, it has no impact on the
10 customer's bill. If they did exceed that month's maximum demand, there's nothing the customer
11 can do about it; the new demand charge has been set. If a customer has a high-use day in the
12 beginning of the month, if they work from home or stay home with a sick child, there's no
13 incentive to reduce demand for the rest of the month, as there's no way to bring the demand
14 charge down.

15 **Q. In what way are demand charges confusing?**

16 A. A minority of APS's customers have experience with demand charges. Demand charges require
17 customers to be especially attentive to which appliances are running when, and to ensure they
18 don't run at the same time. Low-income households are much more constrained on resources
19 and time than the average household, meaning that they have even less ability to monitor and
20 respond to these signals than the average household. Low-income households don't have the
21 time or energy to devote to expertly managing their home's energy use; they're too busy trying
22 to survive. The idea that no one is going to get sick and need to stay home, or work from home,
23 or have family that are home during the day is unreasonable. Work schedules are often
24 unpredictable, so day-to-day tasks may need to be taken care of when time allows, rather than
25 when they should be avoided due to the potential for exceeding peak demand. The energy
26

1 they would use during those peak hours would make their monthly bill skyrocket, which is
2 something that low-income customers shouldn't have to face and simply can't afford.

3 The Company continues to suggest that demand charges represent a third way to save, implying
4 that more ways to alter a customer's bill is always a good thing. This is far from the case for
5 low-income customers. With purely volumetric rates, the customer can use less energy and they
6 know their bill will go down. There's no chance that they may use energy at the wrong time
7 and incur a sizable bill increase. With demand rates, customers must be aware of which
8 appliances are running, how much energy they use, how much power they use, and the whole
9 house's demand. It would be easy to forget or "misremember" one of these variables, driving
10 their bill up higher than their budget can absorb. Under the current tariffs, a customer can kill
11 two birds with one stone, saving energy and demand with the same action. Under demand rates,
12 customers have to be cognizant of kilowatt and kilowatt-hour savings, and messing up either one
13 could cause their bill to spike.

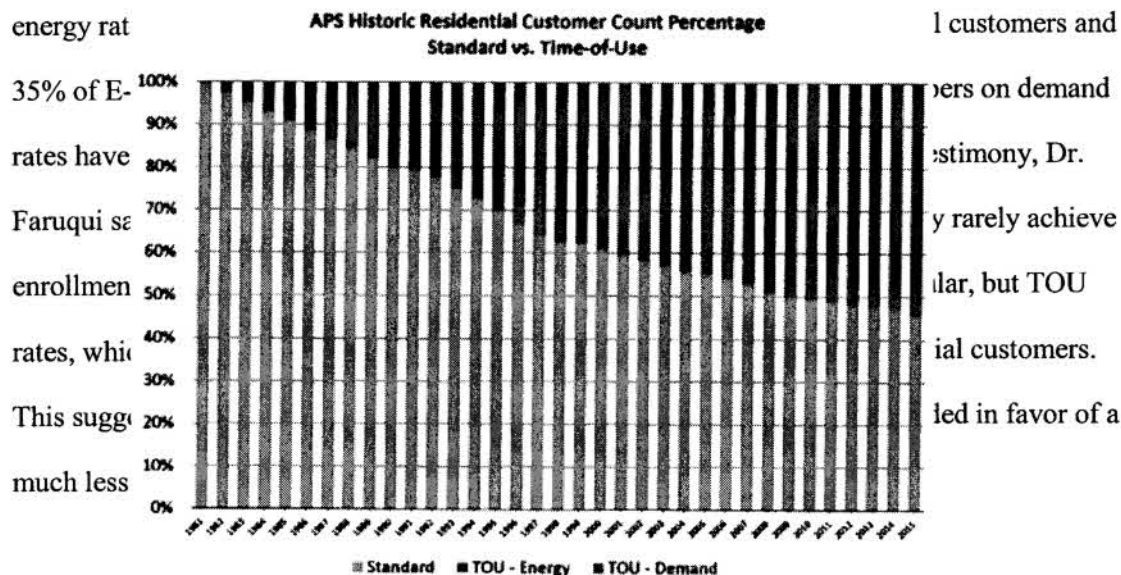
14 **Q. In what way do customers not receive enough information to properly address demand**
15 **charges?**

16 A. The company has recently released a mobile application that, among other data, provides
17 customers with kilowatt-hour and kilowatt usage information. The kilowatt information isn't
18 real-time; there's a time lag of one day before the data is available. As quick as that may be, it's
19 not fast enough to help customers manage their demand. Demand is set over a peak hour, in that
20 hour. But, the customer never knows when they've achieved their maximum kilowatt usage.
21 With such uncertainty, it becomes nearly impossible to predict what the customer's bill will be.
22 And, of course, the one half of low-income customers who don't have access to a smart phone or
23 the internet will be flying blind, not sure of what their demand was until they see it on that
24 month's bill.²⁹

25 **Q. Why do you say that demand charges are unpopular?**

26 ²⁹ <http://www.pewinternet.org/2015/10/29/the-demographics-of-device-ownership/>

A. APS has offered a voluntary demand charge since 1981. At its peak, slightly less than 20% of residential customers were on the rate. Shortly after the demand rate was introduced, time of use energy rates



E-3 and E-4 customers display a similar pattern. Since 2008, non-demand rate enrollment was nearly seven times higher than demand enrollment. In 2015, the number of Demand rate E-3 customers decreased by 7%, while the number of standard rate E-3/E-4 customers decreased by 3%. These trends suggest that the demand rate is falling out of popularity with low-income customers along with the general population.

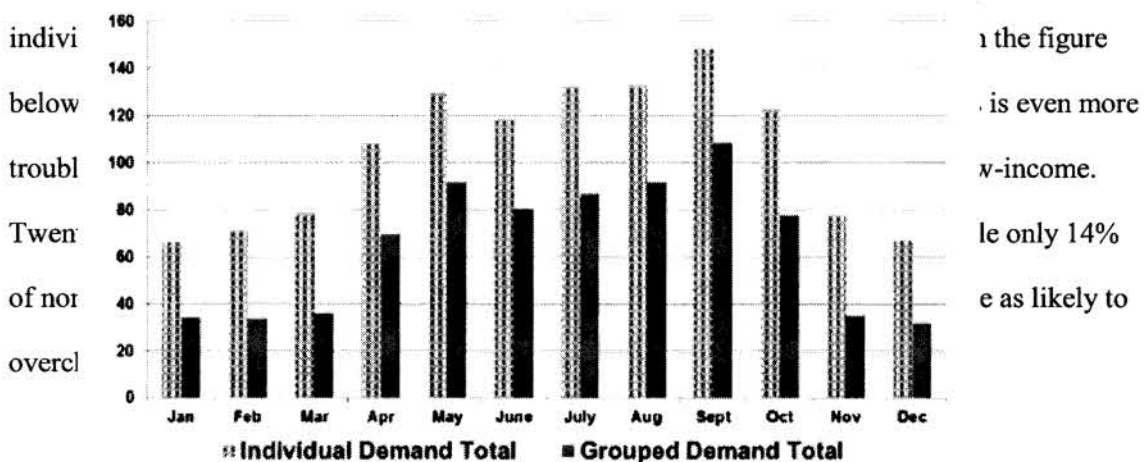
Q. Is the company's demand rate study representative of low-income customers?

A. No, it appears that the only customers to whom the demand rate appeals are large usage customers who are able to take advantage of the low kWh charge. The average ECT-2 customer uses 2.9 times as much energy as the average E-12 customer. In APS's demand rate analysis, the pre-treatment group had an average usage of 2,414 kWh per month, and the post treatment group had an average usage of 2,344 kWh per month. There was a decrease in energy usage of about 3%. The average E-3 customer already uses 2.6 times less energy than the treatment group did, and 98% of E-3 customers already use less than the average Demand rate customers in the study do in summer (and 99% use less in winter). To compound this even further, we know that low-income customers use 25% less energy than the average non-low-income

customer.³⁰ Knowing this, we can conclude that this study is even less generalizable to low-income customers than it is to other residential customers. Focusing only on the E-3 customers in the study, on average the TOU customers used 1,815 kWh while the average Demand customer used 1,808 kWh, saving 0.4% of their energy.³¹ This is much lower than the reported value for the whole study, suggesting that low-income customers are less able to save on demand rates. On average, the E-3 demand rate customers used 1,808 kWh, while the average E-12 customers used 898 kWh, meaning that the average E-3 demand customer used twice as much energy as the average standard rate E-3 customer. Demand rates may help very large customers save money, but we can't draw any conclusions about how an average-sized customer would respond to being forced onto a demand rate from this study.

Q. How are demand charges biased against renters?

A. The demand rate charges every residential customer as if the utility has to serve all of their demand simultaneously. However, that's not how the utility serves customers. For an apartment building with metered tenants the utility serves the building load but charges each tenant



Q. How are demand charges biased against low-income customers?

A. The solution proposed by APS is unobtainable for low-income customers. In Mr. Miessner's testimony, he said that "load savings devices such as load controllers, smart thermostats and

³⁰ EIA RECS 2009 Microdata

³¹ ACAA Data Request

³² <http://www.raponline.org/wp-content/uploads/2016/05/lazar-demandcharges-ngejournal-2015-dec.pdf>

1 other technologies” are effective measures against demand rates, while other parts of APS’s
2 application suggest a combination of battery storage and solar photovoltaics. For households
3 who can’t afford to put food on the table, these options are completely out of reach. Pushing
4 costs onto low-income customers with demand rates and then only offering a solution they can’t
5 afford is unacceptable. Rates should be simple enough that low-income customers don’t require
6 a fully automated house, especially when so many of APS’s customers aren’t able to afford the
7 automation required.

8 **Fixed Charges**

9 **Q. What has APS proposed with regard to fixed charges?**

10 A. APS has proposed to raise the fixed charges. The current E-12 fixed charge is \$8.67, while the
11 proposed R-XS fixed charge is \$18, the R-2 fixed charge is \$14.50, and the fixed charge for R-1
12 and R-3 is \$24.00.

13 **Q. Do you agree with APS’s proposal to increase fixed charges?**

14 A. No, I do not.

15 **Q. Why not?**

16 A. Increased fixed charges remove customer control over their bills, they hit low-use customers the
17 hardest, many of whom are low-income, they charge customers uniformly for distribution
18 system services regardless of actual usage, and they decrease the incentive for energy efficiency,
19 possibly leading to increased electricity system costs.

20 **Q. How does it remove customer control over their bills?**

21 A. It removes customer control by forcing customers to pay even more before they’ve flipped on a
22 single light switch. By increasing the fixed charge to anywhere from 67% to 177%, nearly three
23 times as much customer money is dedicated to charges they can’t control. Looking at the
24 distribution of E-3 and E-4 customers on their respective rates, if all the customers moved to a
25 \$14.50 fixed charge it would mean \$1.8 million in increased revenue. For an \$18 fixed charge it
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³³ American Housing Survey 2015, custom table, income vs household information

would increase revenue by \$5.5 million, and for a \$24 fixed charge customers would be forced to pay \$11.9 million more, regardless of how much energy they use.

Q. How do increased fixed charges impact low-use customers?

A. Increased fixed charges harm all customers, but they hurt low-usage customers the most. Low-usage customers had lower bills before the increased charge, which means that any increase in the mandatory fee will affect a larger portion of their bill than it would for a higher use customer.

Low-income customers also tend to be low-use. According to 2009 EIA RECS data, the average low-income customer uses 25% less energy than the average non-low-income customer. On average, E-3 customers use 10% less energy than non-E-3 customers. The E-3 difference is smaller because it only represents about 30% of low-income customers in APS's service territory, while the other 70% are scattered among the non-low-income rates. For these reasons, increased fixed charges can be very regressive, eating up much of a low-income customer's bill no matter how little they use.

SOLAR PARTNERSHIP PROGRAM

Q. What is the Solar Partnership Program?

A. The Solar Partnership Program is an effort to "forge an innovative path for future solar deployment" by installing utility-owned solar systems on customers' roofs. Most of the panels in the program have been dedicated to studying high-penetration solar installations, while a portion of them are dedicated to low-income customers who wouldn't otherwise be able deploy solar. Customers who allow APS to install solar on their roof receive a \$30 monthly credit.

Q. How much high-penetration solar has been installed through this program?

A. There have been 9,250.8 kWdc installed on 1,476 roofs.

Q. How much solar has been installed on low-income roofs?

A. There has been 767.7 kWdc installed on 131 roofs.

Q. What is your recommendation for this program?

1 A. A full 2 MW should be installed on low-income roofs. Remember, these are customers who are
2 near the federal poverty guideline, and they're people who couldn't otherwise put solar on their
3 roofs. Receiving \$30 per month, or \$360 per year, is almost the full amount a customer could
4 receive if they applied for crisis bill assistance. This extra boost in to their income would allow
5 for some real breathing room in the budget of a low-income customer who's juggling crises.

6 **CRISIS BILL ASSISTANCE PROGRAM**

7 **Q. Please describe the APS Crisis bill assistance program.**

8 A. The APS Crisis bill assistance program was established in order number 71448. It allocated \$5
9 million of shareholder money to provide bill assistance for customers between 150% and 200%
10 of the federal poverty guideline. In order 73183, the criteria were expanded so that customers at
11 200% FPG and below were able to receive bill assistance. A client may receive bill assistance
12 once in a 12 month period, and the maximum amount of assistance they can receive is \$400.

13 **Q. How has the program been administered?**

14 A. Arizona Community Action Association serves in a fiduciary capacity with these funds,
15 contracting the funds to various nonprofit, faith-based and government organizations serving
16 low-income customers and ensuring the smooth operation and management of the program and
17 funds through annual training, agency monitoring, bill review, and utility reimbursement.

18 **Q. What impact has the Crisis Bill Assistance program had?**

19 A. ACAA has distributed approximately \$4 million to 11,000 low-income households throughout
20 the APS service territory. At this point, the fund is nearly exhausted.

21 **Q. What are you requesting that the company do related to bill assistance in this case?**

22 A. I'm requesting that the company renew its commitment to the bill assistance program, allocating
23 \$1.25 million per year to help its vulnerable customers.

24 **Q. Why should APS support that kind of investment in their low income customers?**

25 A. APS has been very generous with the low-income community, a fact that ACAA appreciates. It
26 is in the Company's best interest to continue making this investment. I know that APS prides

1 itself on its commitment to the community, and this program has helped thousands of people
2 keep their lights on, avoid disconnection, and manage crises in their lives. Not only does this
3 support have an immeasurable impact on thousands of customers' lives, the bill assistance
4 program has impacts that can be measured. Bill assistance is a cost-effective investment for
5 APS.

6 **Q. What are the positive benefits that bill assistance creates?**

7 A. Bill assistance reduces collections costs, reduces customer processing costs, reduces revenue lost
8 to disconnection and vacancy, decreases the carrying cost of arrears and the avoided bad debt
9 written off, and donating to ACAA provides a tax incentive to the company.

10 **Q. Are there additional benefits to the customers who receive bill assistance?**

11 A. Yes. Customers receive greater control over their bills, experience fewer days missing work and
12 school, they aren't required to pay the costs of a disconnection notice, shutoff, reconnection, and
13 an additional deposit, they're less likely to be forced to move from their home. Bill assistance
14 reduces the time that customers have to spend dealing with the utility, and it can lead to
15 increased comfort in the home, reduced risk of fire, and the odds of heat related sickness or
16 death decrease.

17 **Q. How did bill assistance reduce collection costs?**

18 A. Customers who require bill assistance are payment troubled. If they hadn't been able to get bill
19 assistance, they likely would have received a disconnect notice and been disconnected; later,
20 they would be hopefully reconnected. To find the value of avoided collections costs, I found the
21 probability of a customer receiving a disconnect notice, disconnection, or reconnection.
22 Multiplying these odds by the cost per action by the total number of customers who received bill
23 assistance gave the total of \$991,000 in avoided collections costs.

24 **Q. How much revenue is lost to disconnection and forced moves?**

25 A. Approximately three percent of the E-3 and E-4 customers who received late notices were
26 disconnected. Of those customers, 83% reconnected, and 17% did not. From ACAA's data

request, the average number of days between a disconnection and reconnection is 1.5. The median length of time a rental property is vacant is 1.8 months.³⁴ Given an average monthly electric bill of \$135.47, this yields an average daily bill of \$4.52. Multiplying the daily bill by the number of days each connection is shut off or each house is vacant, respectively, by the number of customers times the odds of reconnecting or not, respectively, gives the total amount of revenue lost due to disconnections and forced moves, which is \$4,500.

Q. What sort of savings are generated by ACAA processing the bill assistance customers?

A. The customers who need bill assistance are connected with the staff at an agency near them to apply for help. After making an appointment, they meet with a caseworker who confirms eligibility, provides utility assistance, and may provide other assistance as appropriate. The assistance is tracked through ACAA's accounting system and reports are sent back to the utility. By having ACAA perform these functions, the Company avoids having to hire CSRs, caseworkers, and pay for additional accounting work. This saves more than \$42,000.

Q. How did bill assistance decrease the carrying cost of arrears?

A. By providing bill assistance, the customers are able to decrease their arrearage total. In this case, the average E-3 or E-4 customer carried approximately \$160 of arrears, and the average bill assistance was \$299, so on average, the customers had their arrears wiped out when they received assistance. Being forced to carry arrears creates additional costs for the company. The loss may manifest itself in one of two ways. In the event that the utility must borrow money to fill its short-term capital needs, the loss shows up as a working capital expense. In contrast, even when a company doesn't need to borrow money to provide the revenue the loss shows up as an opportunity cost; if the money had been collected, the prudent utility manager would have invested that revenue and obtained a rate of return on it.³⁵ In this case, roughly a quarter of the customers carried arrears during the test year, so the number of customers used in the model was divided by 4. The carrying cost, or interest, on the arrears was calculated using the average

³⁴ <https://www.census.gov/housing/hvs/data/q316ind.html>

1 amount of arrears times the number of customers who received bill assistance times the fraction
2 of E-3 and E-4 customers who carried arrears. A discount rate of 36% was chosen, as the arrears
3 represent unsecured loans to payment-troubled clients; there is precedent for this value.³⁶

4 Subtracting the final value from the initial value gave a total of \$60,000.

5 **Q. How did the reduction in bad debt help the company?**

6 A. Bad debt creates a loss when the company has to write it off. We know that there was \$1.1M in
7 bad debt written off that came from E-3 and E-4 customers.³⁷ Without knowing the specific
8 payment histories of individual customers, an average bad debt per customer was calculated.
9 This value multiplied by the number of customers who received bill assistance gives a total of
10 approximately \$41,000 in avoided bad debt.

11 **Q. What sort of risk avoidance can be realized by providing bill assistance?**

12 A. When customers can't afford power in the summer, dangerous things can happen. In 2015, there
13 were 23 people who died with an air conditioner in their home, either not turned on or blowing
14 hot air.³⁸ There is a possibility that such an incident could cause a lawsuit or could affect
15 insurance premiums. Using the Value of a Statistical Life as the cost of a fatal incident, and
16 factoring in the odds of such a person being an APS customer, there is an avoided cost of
17 \$42,000 saved by providing bill assistance.

18 **Q. How much was spent during the test year on bill assistance?**

19 A. During the test year, \$1,153,150.27 was spent providing bill assistance.

20 **Q. What was the sum total of the benefits acquired by the Company by providing bill
21 assistance?**

22 A. The Company received \$1,180,491.70 \$1,594,073.97 in benefits.

23 **Q. What's the cost-benefit ratio for bill assistance during the test year?**

24 A. The utility cost-benefit for bill assistance was 1.02 during the test year.

25
26 ³⁵ <http://www.fsconline.com/downloads/Papers/1994%2007%20SAVINGS.pdf>

³⁶ <http://www.thesimpledollar.com/best-bad-credit-loans/>

³⁷ ACAA Data Request 1.41

1 **Q. What conclusion do you draw from this?**

2 A. Bill assistance is not only the right thing to do to help out vulnerable customers in need; it's also
3 a solid investment from which the company reaps more than it sows. It is in the company's self-
4 interest to continue to provide bill assistance to APS customers in crisis.

5 **BUSINESS OFFICES**

6 **Q. What has APS done with its business offices?**

7 A. APS has closed all of its 20 business offices which accepted customer payments and hosted
8 customer service representatives who could offer assistance to customers in need.³⁹

9 **Q. How has APS addressed the lack of customer service due to the office closures?**

10 A. APS increased the installation of pay stations in these areas and partnered with local businesses
11 to accept payments.

12 **Q. Does this sufficiently address customer need in these areas?"**

13 A. No, it doesn't, especially in rural areas. Many customers require more assistance than a
14 paystation can provide. A number of customers come in to the office to have a CSR explain
15 their bill to them and sometimes read their bill to them. Due to age, education, or fluency issues,
16 they are not able to deal with the bill on their own. Elderly clients that do not have computer
17 access or are not tech savvy simply require direct customer service.

18 **Q. What do you recommend?**

19 A. I recommend that there be some local APS contact that these people can go to. Either re-
20 establish the previous business centers or set up a satellite office for people who can't get the
21 service they need at a paystation or over the phone. There are needs in the community that can't
22 be met by automation; there are customers who need their bill explained to them in great detail,
23 and there are customers who need help writing their check to APS. This is assistance best
24 provided by a person, which APS should go back to supporting.

25 ³⁸ <http://www.maricopa.gov/PublicHealth/Services/EPI/pdf/heat/2015annualreport.pdf>

26 ³⁹ "ACAA Response to Office Closure Questions 18DEC2015," Stacy Derstine

1 **E-3/E-4 DEPOSIT WAIVER**

2 **Q. Are E-3 and E-4 customers required to pay deposits if they make late payments or are**
3 **disconnected?**

4 A. No. E-3 and E-4 customers are able to waive additional deposits. In Decision 71448, APS
5 agreed to waive the collection of an additional security deposit from customers on low-income
6 schedules under certain specified circumstances.

7 **Q. If a customer is not on E-3 or E-4, is charged an additional deposit, and then enrolls in E-3**
8 **or E-4, are they still required to pay that deposit?**

9 A. Yes, under the current rules, a customer must presently be enrolled on E-3 or E-4 in order to
10 have their deposit waived. In this circumstance, the customer would be required to pay the
11 additional deposit.

12 **Q. Should the rule change to allow customers enrolling on E-3 or E-4 to have any pending**
13 **deposits waived?**

14 A. Yes, the deposit waiver should be extended to customers who enroll on E-3 or E-4 with a prior
15 deposit due. As was discussed in the hearing in Docket E-01345A-08-0172, low-income
16 customers who are disconnected or making late payments are doing so because they simply
17 don't have enough money to make ends meet. In the month before, they may have skipped a car
18 payment, or avoided paying a doctor's bill; this month, the utilities were simply too much. To
19 charge them additional funds in the form of another deposit is a double whammy, taking an
20 unaffordable bill and making it hundreds of dollars more unaffordable. As was discussed in the
21 above testimony, it's in everyone's interest to keep low-income customers connected to the grid
22 and contributing to paying down the utility's fixed charges. If they remain disconnected (and
23 with an unaffordable deposit, they will), those fixed costs are spread over fewer customers,
24 causing everyone's costs to increase. In this circumstance, it becomes less likely that the utility
25 will be able to recover all of its fixed costs. So, it is in other ratepayers' interests and the
26 company's interest to waive the deposit and to keep the low-income customer connected to the

1 grid. Moreover, it's unfair to exclude these customers from the deposit waiver. The goal of the
2 deposit waiver was to decrease the burden on low-income customers who are having a hard time
3 paying their bills. By excluding customers who have just enrolled in E-3 or E-4, these
4 customers are being punished for not having known to enroll in the program previously. These
5 are low-income customers who are having a hard time paying their bills; they are the group
6 being targeted for relief by this policy. Telling them they can't have their deposit waived
7 because they applied for E-3 or E-4 after their payment troubles instead of before is arbitrarily
8 denying them substantial relief from an onerous deposit requirement.

9 **Q. What do you recommend?**

10 A. In addition to the current deposit waiver, customers who enroll in E-3 or E-4 with an additional
11 deposit from a disconnection or several late payments shall have their deposit collection waived.

12 **Q. Does this conclude your testimony?**

13 A. Yes, it does, thank you.
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EXHIBIT A

1 **AVAILABILITY**

2 The E-3 Energy Support Program discount is available to all residential Customers, on any
3 residential rate schedule, with a gross monthly household income at or below 150% of the
4 federal poverty guidelines (FPG). The discount is divided into three tiers: 0-50% FPG,
5 51-101% FPG, and 101-150% FPG.

6 **DESCRIPTION**

7 The E-3 Energy Support Program is a flat discount deducted from the monthly bill, before
8 taxes, regulatory assessments, and franchise fees, of a qualifying limited-income Customer.

9 **DISCOUNT**

10 The following discount will apply to energy purchased under this rate rider:

11

Discount, 0-50% FPG	\$2.96	per day
Discount, 51-100% FPG	\$2.00	per day
Discount, 101-150% FPG	\$0.90	per day

12

13 **SERVICE DETAILS**

14 1. The discount will be deducted from the monthly bill prior to the application of taxes, regulatory assessment, and
15 franchise fees.

16 2. ~~The discount will also be no more than 80% of the monthly bill.~~ Each of the discounts shall not be more
17 than the following percentage of the monthly bill before taxes, regulatory assessment, and franchise fees:

- 18 a. 0-50% FPG: 65%
19 b. 51-100% FPG: 45%
20 c. 101-150% FPG: 20%

21 3. Customers may not receive discounts under both this rider and Rate Rider E-4 at the same time.

22 4. All the terms and charges in the Customer's rate schedule, other than those specifically included here, continue to
23 apply to electric service provided under this rider.

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EXHIBIT B

1 **AVAILABILITY**

2 The E-3 Energy Support Program discount is available to all residential Customers, on any
3 residential rate schedule, with a gross monthly household income at or below 150% of the
federal poverty guidelines (FPG). The discount is divided into three tiers: 0-50% FPG,
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4 **DESCRIPTION**

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10

11 **SERVICE DETAILS**

12 1. The discount will be deducted from the monthly bill prior to the application of taxes, regulatory assessment, and
13 franchise fees.

14 2. Each of the discounts shall not be more than the following percentage of the monthly bill before taxes, regulatory
assessment, and franchise fees:

- 15 a. 0-50% FPG: 65%
16 b. 51-100% FPG: 45%
c. 101-150% FPG: 20%

17 3. Customers may not receive discounts under both this rider and Rate Rider E-4 at the same time.

18 4. All the terms and charges in the Customer's rate schedule, other than those specifically included here, continue to
19 apply to electric service provided under this rider.
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